

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776755

Luminaire Tested: HCDJBL54050CSD-HCD81TRH-HCD81TRLWW-5000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776755
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B048)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD81TRH-HCD81TRLWW-5000lm-2700K
Description: 8 INCH ROUND SHALLOW-WIDE LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5591.5 lumens
Efficiency: N/A
Efficacy: 116.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.17 / 1.27
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

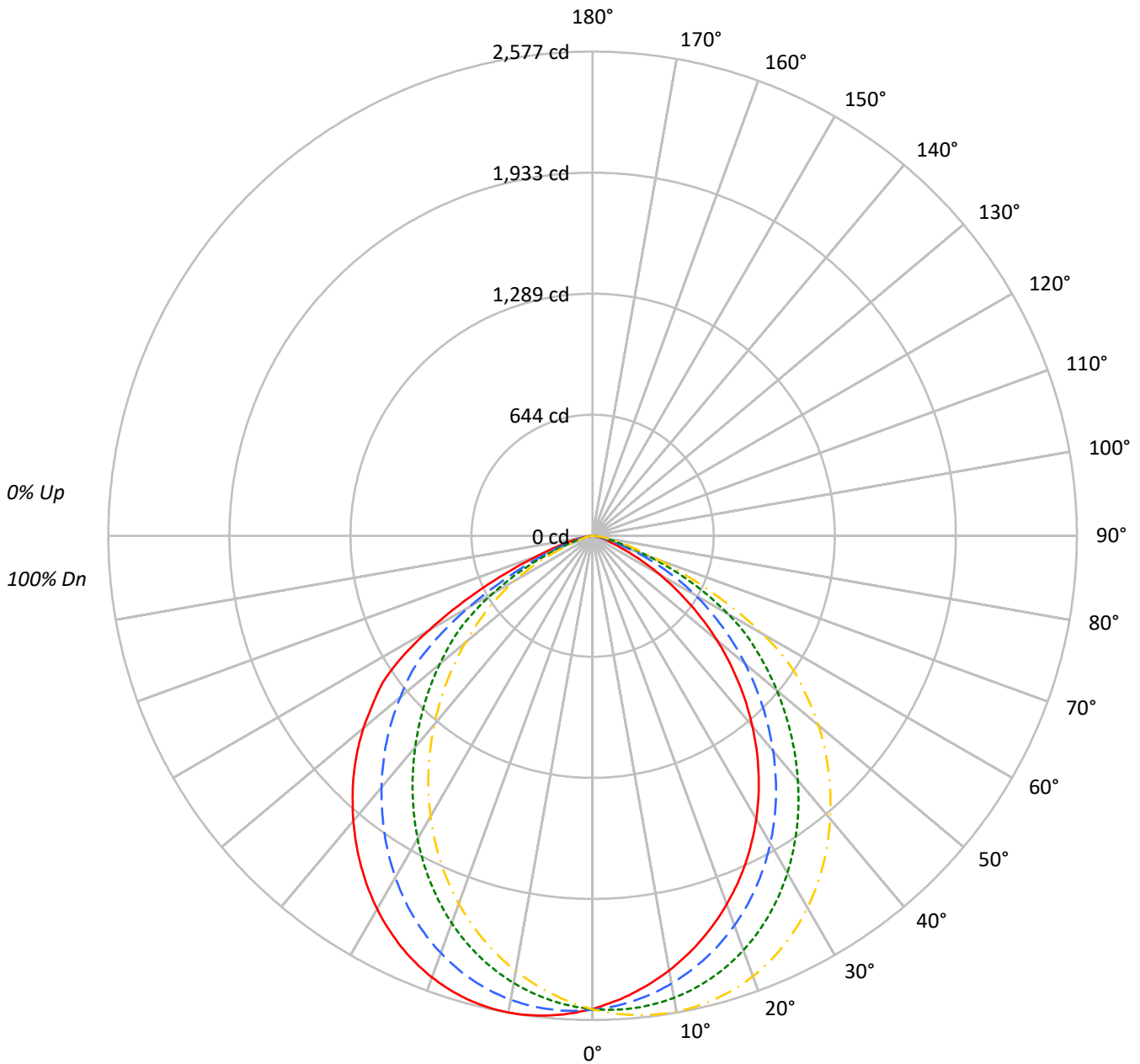
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100				
1	111	107	103	100	108	105	101	98	100	98	95	97	94	92	93	91	90	88				88				
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	83	80	78	76				76				
3	94	85	77	72	92	83	76	71	80	74	70	77	73	69	75	71	67	65				65				
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	57				57				
5	80	68	60	54	78	67	59	54	65	58	53	63	57	52	61	56	52	50				50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44				
7	69	56	48	42	67	55	48	42	54	47	42	53	46	42	51	46	41	39				39				
8	64	52	44	38	63	51	43	38	50	43	38	48	42	37	47	42	37	35				35				
9	60	47	40	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32				32				
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29				29				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	76945	76945	76945	76945
5°	74919	77350	78536	76121
10°	72794	77398	79884	74927
15°	70443	77068	80782	73338
20°	67822	76260	81247	71256
25°	64826	74939	81262	68677
30°	61383	73059	80850	65688
35°	57374	70635	80042	62249
40°	52692	67709	78948	58538
45°	47269	64402	77579	54605
50°	40918	60782	75562	50418
55°	33512	56645	72582	45781
60°	25120	50796	61451	37442
65°	16095	40910	44529	26787
70°	9114	28100	27529	16148
75°	6936	16444	17411	8764
80°	4888	9055	9934	4167
85°	2872	4939	2557	1751

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 78663 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.8	4.3
10°-20°	672.8	12.0
20°-30°	990.6	17.7
30°-40°	1135.8	20.3
40°-50°	1093.0	19.5
50°-60°	871.5	15.6
60°-70°	452.4	8.1
70°-80°	122.0	2.2
80°-90°	15.6	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1901.2	34.0
0°-40°	3036.9	54.3
0°-60°	5001.5	89.4
0°-90°	5591.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5591.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2520	2520	2520	2520	2520	
5°	2445	2524	2563	2484	2445	230
15°	2229	2438	2556	2320	2229	627
25°	1924	2225	2412	2039	1924	884
35°	1539	1895	2148	1670	1539	960
45°	1095	1492	1797	1265	1095	842
55°	630	1064	1364	860	630	563
65°	223	566	616	371	223	230
75°	59	139	148	74	59	64
85°	8	14	7	5	8	11
90°	0	1	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2520.3	2520.3	2520.3	2520.3	2520.3	2520.3	2520.3	2520.3	2520.3	2520.3	2520.3
0.5°	2511.2	2522.1	2521.2	2519.8	2521.2	2523.5	2524.8	2524.8	2523.0	2530.8	2525.3
1°	2504.8	2517.5	2518.5	2519.4	2523.0	2527.6	2530.3	2530.3	2528.5	2534.4	2527.6
1.5°	2497.9	2512.5	2515.3	2518.9	2523.9	2530.3	2534.9	2534.9	2533.9	2537.6	2528.9
2°	2491.1	2507.5	2512.1	2517.5	2524.8	2533.5	2539.4	2539.4	2539.0	2540.8	2530.3
2.5°	2483.8	2502.0	2508.0	2516.6	2525.3	2536.2	2544.0	2544.0	2543.5	2544.0	2531.2
3°	2476.5	2496.1	2504.3	2514.8	2525.7	2539.0	2548.1	2548.1	2547.6	2546.7	2531.7
3.5°	2469.2	2490.2	2500.2	2513.0	2525.7	2541.2	2551.7	2551.7	2552.2	2549.0	2532.1
4°	2461.0	2483.8	2495.7	2510.7	2525.3	2543.1	2554.9	2554.9	2555.8	2550.8	2532.1
4.5°	2453.3	2477.4	2490.7	2508.0	2524.8	2544.4	2558.1	2558.1	2559.5	2552.6	2531.7
5°	2444.6	2470.6	2485.6	2505.2	2523.9	2545.3	2560.8	2560.8	2562.6	2554.0	2531.2
5.5°	2436.4	2463.8	2480.6	2502.0	2522.6	2546.2	2563.1	2563.1	2565.4	2554.9	2529.8
6°	2427.3	2456.5	2474.7	2498.4	2521.2	2546.7	2565.4	2565.4	2568.1	2555.4	2528.9
6.5°	2418.2	2448.7	2468.8	2494.8	2518.9	2547.2	2567.2	2567.2	2570.4	2555.8	2527.6
7°	2409.1	2441.0	2462.9	2490.7	2516.6	2547.2	2569.0	2569.0	2572.2	2555.8	2525.7
7.5°	2399.5	2432.8	2456.5	2486.6	2513.9	2546.7	2569.9	2569.9	2573.6	2555.4	2523.5
8°	2389.5	2424.6	2449.7	2481.5	2511.6	2546.2	2570.8	2570.8	2574.9	2554.9	2520.7
8.5°	2379.5	2415.9	2442.4	2476.5	2508.4	2544.9	2571.8	2571.8	2575.9	2553.5	2518.0
9°	2369.0	2407.3	2435.1	2471.1	2504.8	2544.0	2571.8	2571.8	2576.8	2552.6	2514.8
9.5°	2359.0	2398.2	2427.8	2465.6	2501.1	2542.1	2571.8	2571.8	2576.8	2550.8	2511.2
10°	2348.1	2389.1	2419.6	2459.7	2496.6	2539.9	2571.3	2571.3	2576.8	2548.5	2507.5
10.5°	2337.6	2379.5	2411.4	2453.3	2492.5	2538.0	2570.8	2570.8	2575.9	2546.2	2503.4
11°	2326.2	2369.5	2403.2	2446.5	2487.5	2535.3	2569.5	2569.5	2574.9	2543.5	2498.9
11.5°	2314.8	2359.9	2394.5	2440.1	2482.5	2532.6	2568.1	2568.1	2574.0	2540.8	2493.8
12°	2303.0	2349.4	2385.9	2432.8	2477.0	2529.4	2566.7	2566.7	2572.2	2537.1	2488.8
12.5°	2291.6	2339.0	2376.3	2425.1	2471.5	2525.7	2564.5	2564.5	2570.4	2533.5	2483.4
13°	2279.3	2328.0	2367.2	2417.3	2465.6	2522.1	2562.2	2562.2	2568.1	2529.4	2477.4
13.5°	2267.0	2317.1	2357.2	2409.6	2459.2	2518.0	2559.5	2559.5	2565.8	2525.3	2471.5
14°	2254.7	2306.1	2347.2	2400.9	2452.4	2513.4	2556.3	2556.3	2563.1	2520.3	2464.7
14.5°	2241.5	2294.8	2337.1	2392.7	2445.6	2508.4	2553.1	2553.1	2559.5	2515.3	2458.3
15°	2228.7	2283.4	2326.7	2383.6	2438.3	2503.0	2549.4	2549.4	2555.8	2509.8	2451.0
15.5°	2215.5	2271.1	2315.7	2374.5	2430.5	2497.9	2545.3	2545.3	2551.7	2504.3	2443.7
16°	2202.3	2258.8	2304.3	2364.9	2422.3	2492.0	2540.8	2540.8	2547.6	2497.9	2436.4
16.5°	2188.6	2246.5	2292.9	2354.9	2414.1	2485.6	2536.2	2536.2	2543.1	2491.6	2428.2
17°	2174.5	2233.7	2281.5	2344.4	2405.5	2479.3	2531.2	2531.2	2538.0	2484.7	2419.6
17.5°	2160.4	2221.0	2269.7	2334.4	2396.8	2472.4	2525.7	2525.7	2532.6	2477.4	2410.9
18°	2146.7	2207.7	2257.9	2323.5	2387.2	2465.1	2520.3	2520.3	2526.7	2470.2	2401.8
18.5°	2132.1	2194.5	2245.1	2312.5	2377.7	2457.4	2514.3	2514.3	2520.3	2462.4	2392.7
19°	2116.6	2180.9	2232.3	2301.1	2367.7	2450.1	2508.0	2508.0	2514.3	2454.7	2383.1
19.5°	2102.0	2166.7	2219.6	2289.3	2357.6	2441.9	2501.1	2501.1	2507.5	2446.0	2373.1
20°	2087.5	2153.1	2206.4	2277.9	2347.2	2433.3	2494.3	2494.3	2500.7	2437.4	2362.6
20.5°	2072.0	2138.5	2193.2	2265.6	2335.8	2424.6	2487.0	2487.0	2493.4	2428.2	2352.6
21°	2055.6	2124.4	2179.5	2253.3	2324.8	2415.5	2479.3	2479.3	2485.6	2419.1	2341.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2008.7	2079.3	2136.7	2213.7	2289.7	2386.3	2454.2	2477.0	2460.1	2389.5	2307.5
23°	1992.3	2063.8	2122.1	2200.0	2277.4	2375.9	2445.1	2468.8	2451.0	2378.6	2295.2
23.5°	1975.4	2048.3	2107.1	2186.3	2264.2	2365.4	2436.0	2459.7	2441.9	2368.1	2283.4
24°	1958.5	2032.3	2091.6	2172.2	2251.5	2354.0	2426.4	2450.6	2432.3	2356.7	2270.6
24.5°	1941.7	2016.4	2076.1	2157.2	2238.3	2342.6	2416.4	2441.0	2422.3	2345.3	2257.9
25°	1924.4	2000.0	2060.6	2142.6	2224.6	2331.2	2405.9	2431.0	2412.3	2333.5	2244.6
25.5°	1907.1	1983.1	2044.6	2127.6	2210.5	2318.9	2395.4	2421.0	2401.4	2321.6	2231.4
26°	1889.3	1966.7	2028.2	2112.1	2196.4	2306.6	2384.5	2410.5	2390.4	2309.3	2217.8
26.5°	1871.5	1949.9	2011.8	2096.1	2181.8	2294.3	2373.6	2399.5	2379.5	2296.6	2204.1
27°	1853.3	1933.0	1995.4	2080.6	2167.2	2281.5	2361.7	2388.2	2368.1	2283.8	2189.5
27.5°	1835.1	1915.7	1978.6	2064.7	2152.2	2268.3	2349.9	2377.2	2356.3	2271.1	2175.4
28°	1816.9	1897.9	1961.7	2048.3	2136.2	2254.2	2338.0	2365.4	2344.4	2257.4	2160.4
28.5°	1797.7	1879.7	1944.4	2031.4	2120.7	2241.0	2325.7	2353.1	2331.7	2243.7	2145.8
29°	1779.0	1862.0	1926.7	2014.1	2104.8	2226.4	2312.5	2340.8	2319.4	2229.6	2130.3
29.5°	1760.4	1843.7	1909.3	1997.3	2088.8	2212.3	2299.8	2328.5	2306.1	2215.5	2114.8
30°	1741.2	1826.0	1891.1	1980.0	2072.4	2197.7	2286.6	2315.7	2293.4	2201.4	2098.9
30.5°	1721.6	1806.8	1872.9	1962.6	2055.6	2182.2	2272.9	2302.5	2279.7	2186.3	2083.4
31°	1702.0	1788.2	1854.7	1945.3	2039.2	2167.2	2259.2	2288.8	2266.1	2171.8	2067.4
31.5°	1682.0	1769.5	1836.0	1926.7	2021.9	2151.7	2244.6	2275.2	2251.9	2156.7	2051.0
32°	1662.4	1750.3	1817.3	1908.4	2004.1	2135.8	2230.5	2261.0	2237.8	2141.7	2034.6
32.5°	1642.4	1730.3	1798.2	1889.7	1986.3	2119.8	2215.9	2247.4	2223.2	2125.7	2018.2
33°	1622.3	1711.2	1778.6	1871.5	1968.6	2103.0	2200.9	2233.3	2208.7	2110.2	2000.9
33.5°	1601.8	1691.6	1759.5	1852.4	1950.3	2086.6	2185.9	2217.8	2193.6	2093.8	1984.1
34°	1580.9	1672.0	1740.3	1833.7	1932.6	2070.2	2169.9	2202.7	2178.6	2077.9	1966.7
34.5°	1560.4	1651.9	1720.7	1814.1	1913.9	2052.8	2154.4	2187.7	2163.1	2062.0	1949.4
35°	1539.4	1631.4	1701.1	1795.4	1895.2	2035.5	2138.5	2172.7	2147.6	2045.1	1931.7
35.5°	1518.5	1610.9	1680.6	1775.4	1876.1	2018.2	2122.1	2156.7	2132.1	2028.2	1914.4
36°	1497.0	1590.4	1660.6	1755.8	1857.4	2000.5	2106.1	2140.3	2115.7	2010.9	1895.7
36.5°	1475.6	1569.9	1640.1	1735.3	1838.3	1982.7	2088.8	2124.4	2099.8	1994.5	1877.4
37°	1454.2	1549.0	1620.0	1716.2	1819.1	1964.0	2072.0	2108.4	2082.9	1976.8	1859.7
37.5°	1432.8	1528.0	1599.1	1696.1	1799.1	1945.8	2054.7	2091.6	2066.5	1959.5	1841.5
38°	1410.5	1507.1	1578.1	1675.6	1779.5	1927.1	2037.4	2074.7	2049.7	1941.7	1822.8
38.5°	1388.6	1485.6	1557.2	1654.2	1759.5	1908.4	2020.0	2057.9	2032.8	1924.4	1804.1
39°	1367.2	1463.8	1536.2	1634.6	1740.3	1889.7	2002.3	2041.5	2015.5	1906.1	1785.4
39.5°	1345.3	1442.8	1515.3	1613.7	1719.4	1870.6	1984.1	2023.7	1998.6	1887.9	1766.7
40°	1322.1	1421.4	1493.8	1593.2	1698.9	1851.0	1966.3	2005.9	1980.9	1869.7	1747.2
40.5°	1300.2	1399.5	1472.4	1571.8	1678.4	1831.9	1948.1	1988.2	1963.1	1851.5	1728.5
41°	1277.4	1377.7	1451.0	1551.3	1657.9	1812.3	1928.9	1970.8	1945.3	1832.8	1708.9
41.5°	1255.1	1355.8	1429.6	1530.3	1637.4	1792.3	1910.7	1952.6	1927.1	1815.0	1689.7
42°	1231.9	1333.9	1407.3	1509.3	1616.9	1772.2	1891.6	1933.9	1908.9	1795.9	1670.6
42.5°	1210.0	1311.6	1386.3	1488.4	1596.4	1752.6	1873.3	1915.7	1890.7	1776.8	1650.6
43°	1186.8	1289.3	1364.5	1467.4	1575.4	1732.6	1853.8	1897.5	1872.4	1757.2	1631.0
43.5°	1163.6	1267.0	1343.1	1445.6	1554.4	1712.5	1834.6	1878.8	1853.8	1738.5	1611.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1094.8	1199.1	1277.0	1381.8	1491.6	1651.0	1775.9	1821.9	1796.8	1679.3	1550.8
45.5°	1071.5	1176.8	1255.6	1360.8	1470.6	1630.5	1755.8	1802.7	1777.7	1658.8	1530.3
46°	1048.3	1154.0	1233.3	1339.0	1449.7	1610.0	1735.8	1782.7	1758.1	1638.7	1509.8
46.5°	1025.1	1131.2	1211.8	1317.5	1428.7	1589.1	1715.7	1763.1	1738.5	1618.2	1488.8
47°	1002.3	1108.9	1189.5	1296.1	1407.7	1568.1	1694.8	1743.1	1718.0	1597.3	1467.9
47.5°	978.6	1086.1	1167.7	1274.7	1385.9	1547.2	1674.7	1722.6	1697.5	1576.3	1446.0
48°	954.4	1063.3	1145.3	1253.8	1364.9	1526.2	1653.8	1702.0	1677.4	1554.0	1424.6
48.5°	931.7	1040.1	1123.5	1231.9	1344.0	1505.2	1632.8	1681.1	1656.5	1532.1	1402.7
49°	908.4	1017.8	1101.1	1210.5	1322.6	1483.4	1611.4	1660.1	1635.1	1509.8	1380.4
49.5°	885.2	995.0	1079.7	1189.1	1300.7	1462.0	1590.4	1638.7	1612.8	1487.0	1358.1
50°	861.5	972.2	1058.3	1167.2	1279.7	1440.5	1568.1	1616.9	1590.9	1464.2	1335.8
50.5°	837.8	949.4	1036.0	1146.2	1258.3	1418.7	1545.8	1594.5	1568.1	1440.5	1313.9
51°	814.6	926.2	1014.1	1124.8	1236.9	1396.8	1523.5	1571.8	1545.3	1417.8	1292.0
51.5°	791.8	903.4	992.3	1103.4	1215.5	1374.9	1500.7	1548.5	1522.1	1395.4	1270.6
52°	768.1	881.1	970.4	1082.0	1193.6	1352.2	1477.4	1524.8	1498.4	1374.0	1250.1
52.5°	745.3	858.3	948.5	1060.6	1171.8	1329.8	1454.2	1501.1	1474.7	1353.1	1228.7
53°	721.6	835.5	927.1	1039.2	1149.9	1306.6	1430.5	1478.4	1452.4	1330.8	1207.3
53.5°	698.4	813.2	905.2	1018.2	1128.5	1283.8	1406.8	1454.2	1430.5	1307.5	1182.2
54°	675.6	790.9	883.8	995.9	1106.6	1261.0	1384.1	1432.3	1409.1	1281.1	1156.7
54.5°	652.8	768.6	862.0	974.9	1085.2	1239.2	1361.7	1411.4	1386.8	1251.9	1127.6
55°	629.6	746.2	840.5	953.5	1064.2	1217.3	1340.3	1390.0	1363.6	1219.1	1097.5
55.5°	607.3	723.5	819.6	933.0	1043.7	1196.4	1318.0	1365.8	1335.8	1187.2	1066.1
56°	584.5	702.0	797.7	912.1	1022.8	1174.5	1294.8	1339.0	1305.2	1151.7	1033.7
56.5°	562.2	680.2	776.8	891.1	1001.8	1151.3	1268.8	1308.9	1273.3	1116.2	1001.4
57°	539.9	657.9	756.3	871.1	979.0	1126.2	1241.0	1278.4	1239.2	1079.7	968.6
57.5°	517.5	636.4	735.8	850.6	956.3	1101.1	1211.4	1244.2	1202.3	1043.7	933.5
58°	496.6	615.0	714.4	830.1	932.1	1073.8	1180.9	1209.1	1164.9	1004.6	898.9
58.5°	474.7	594.1	693.4	808.2	908.4	1046.0	1149.0	1171.8	1127.1	965.4	864.2
59°	453.3	573.1	672.9	786.3	882.9	1017.3	1114.4	1133.9	1087.5	927.1	829.6
59.5°	431.9	552.2	651.9	764.0	857.9	987.2	1079.7	1093.4	1046.9	889.3	794.5
60°	411.4	530.8	631.0	741.7	831.9	957.6	1044.2	1054.2	1006.4	849.7	760.4
60.5°	390.9	510.3	609.1	719.4	806.8	927.1	1008.2	1013.7	965.8	811.4	726.2
61°	370.8	490.2	588.2	696.1	780.0	896.1	970.8	974.5	925.7	773.6	692.5
61.5°	350.3	469.2	566.7	673.8	753.5	864.7	933.0	933.9	884.7	734.9	658.8
62°	331.2	448.7	545.3	650.6	727.6	832.8	896.6	894.8	845.1	697.5	625.1
62.5°	312.1	428.2	524.4	627.8	700.2	800.9	858.3	855.1	804.6	661.0	592.7
63°	293.4	408.2	502.5	605.0	673.3	768.1	821.0	815.5	765.8	626.9	561.3
63.5°	274.3	388.2	481.5	580.9	646.5	735.8	784.1	776.3	727.1	592.3	530.3
64°	256.9	369.0	460.6	558.1	620.0	703.9	748.5	738.5	689.7	559.5	500.2
64.5°	239.6	349.4	439.6	534.9	593.2	671.5	712.1	701.1	653.3	527.6	471.1
65°	222.8	329.8	419.1	512.1	566.3	639.6	677.4	664.7	616.4	496.6	443.3
65.5°	206.4	311.2	398.2	488.8	539.4	608.2	642.8	628.7	580.4	467.4	418.7
66°	190.9	292.9	377.7	466.1	512.5	577.2	608.7	593.6	544.9	439.2	394.5



TEST NUMBER: P776755

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRH-HCD81TRLWW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	150.8	239.6	316.6	398.2	435.1	488.4	511.6	495.7	444.2	365.4	321.6
68°	139.4	222.8	297.0	375.9	410.9	460.1	481.1	465.1	415.9	340.3	300.2
68.5°	128.5	206.4	277.9	353.5	386.8	432.3	451.0	435.5	387.7	315.7	280.6
69°	117.1	190.0	258.3	331.7	362.6	406.8	425.1	409.1	359.5	294.8	262.0
69.5°	108.4	174.0	239.2	309.3	339.0	381.8	399.1	383.1	331.7	275.2	244.2
70°	102.1	159.9	220.5	288.8	314.8	356.3	373.6	356.7	308.4	256.5	227.8
70.5°	97.9	146.2	202.3	267.9	293.4	330.8	347.6	330.8	286.6	239.2	212.3
71°	93.4	133.0	185.0	247.4	272.9	308.9	321.6	308.4	266.1	222.8	197.3
71.5°	88.8	119.8	168.1	227.8	252.8	286.6	299.3	287.0	246.9	207.3	183.6
72°	84.3	106.6	154.4	209.1	233.7	266.1	277.9	267.0	229.6	193.2	170.8
72.5°	79.7	97.0	141.2	191.3	215.0	246.5	258.3	248.3	213.2	179.5	158.1
73°	75.2	90.2	128.0	174.9	197.7	228.2	240.1	230.5	198.2	166.7	146.7
73.5°	71.1	85.6	114.8	159.0	181.8	210.9	222.8	214.1	184.5	154.9	135.8
74°	67.0	81.1	101.1	146.2	166.7	195.0	206.4	199.1	171.3	143.5	125.3
74.5°	62.9	77.0	91.6	133.0	152.2	180.0	191.3	185.0	159.0	133.0	115.7
75°	58.8	72.9	82.9	120.3	139.4	165.8	177.2	171.8	147.6	123.0	106.2
75.5°	55.1	68.8	76.1	107.5	127.1	152.6	164.0	159.5	136.2	113.0	97.5
76°	51.5	64.7	69.7	97.0	115.7	140.3	151.7	147.6	125.7	103.9	88.8
76.5°	48.3	61.0	64.2	87.5	104.8	128.5	140.3	137.1	115.7	95.2	81.1
77°	45.1	56.9	59.7	79.3	95.7	118.5	129.4	126.7	105.7	87.0	73.3
77.5°	41.9	53.3	55.6	71.5	86.6	108.0	119.4	117.1	96.6	78.8	66.1
78°	38.7	50.1	52.4	64.7	78.4	98.4	109.3	107.5	87.9	71.5	59.2
78.5°	36.0	46.9	48.7	58.8	70.6	89.7	100.2	98.4	79.3	64.7	52.8
79°	33.3	43.7	46.0	53.3	63.8	81.5	91.6	90.2	71.1	57.9	46.9
79.5°	30.5	40.5	42.8	48.3	57.4	73.8	83.4	82.0	63.8	51.9	42.4
80°	27.8	37.4	40.1	43.7	51.5	66.5	75.6	74.3	56.5	46.9	37.4
80.5°	25.5	34.6	36.9	39.6	46.0	60.1	68.3	67.4	49.7	41.5	32.3
81°	23.2	31.9	34.6	36.0	41.9	53.3	61.5	60.6	44.2	36.4	27.8
81.5°	21.0	29.6	31.9	32.8	37.4	47.8	54.7	54.2	38.7	31.4	22.8
82°	18.7	26.9	29.6	29.6	33.3	42.8	48.7	47.8	33.3	26.4	19.1
82.5°	16.9	24.6	26.9	26.9	28.7	38.3	43.7	42.8	27.3	21.4	15.9
83°	14.6	21.9	24.6	24.1	24.6	33.7	38.7	37.8	21.9	17.8	12.8
83.5°	12.8	20.0	22.8	22.3	21.4	28.7	33.7	32.8	17.8	14.1	10.0
84°	11.4	17.8	20.5	20.0	18.7	24.1	28.7	27.8	13.7	10.9	7.7
84.5°	9.6	15.9	18.2	18.2	16.4	21.0	23.7	22.8	10.5	8.2	5.9
85°	8.2	14.1	16.4	16.4	14.1	17.8	20.0	18.7	7.3	5.5	4.1
85.5°	6.8	12.3	15.0	14.6	11.8	14.6	16.4	15.0	4.6	3.6	2.7
86°	5.5	10.5	13.2	13.2	10.5	12.3	13.2	11.8	2.7	2.3	1.4
86.5°	4.1	8.7	11.4	11.4	8.7	10.0	10.5	8.7	1.8	0.9	0.5
87°	3.2	7.3	9.6	10.0	7.3	7.7	8.2	6.4	1.4	0.5	0.0
87.5°	2.3	5.9	8.2	8.7	5.9	6.4	5.9	4.6	0.9	0.0	0.0
88°	1.8	4.6	6.8	7.3	5.0	4.6	4.1	2.7	0.5	0.0	0.0
88.5°	0.9	3.6	5.5	5.9	3.6	3.2	2.7	1.4	0.5	0.0	0.0



TEST NUMBER: P776755

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRH-HCD81TRLWW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	1.4	2.3	2.7	1.4	0.9	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776755

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRH-HCD81TRLWW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2520.3	2520.3	2520.3	2520.3	2520.3	2520.3
0.5°	2519.8	2517.5	2515.3	2513.9	2512.1	2511.2
1°	2519.4	2514.8	2510.7	2508.0	2505.2	2504.8
1.5°	2518.5	2512.1	2505.7	2501.1	2498.4	2497.9
2°	2517.5	2508.9	2500.7	2494.8	2491.1	2491.1
2.5°	2515.7	2505.2	2495.2	2487.9	2483.8	2483.8
3°	2513.9	2501.6	2489.3	2480.6	2476.1	2476.5
3.5°	2512.1	2497.9	2483.4	2473.3	2468.3	2469.2
4°	2509.3	2493.4	2477.0	2465.6	2459.7	2461.0
4.5°	2507.1	2488.8	2470.2	2457.4	2451.5	2453.3
5°	2503.9	2483.8	2463.3	2449.2	2442.4	2444.6
5.5°	2500.7	2478.4	2456.0	2440.5	2433.7	2436.4
6°	2497.0	2472.9	2448.3	2431.9	2424.6	2427.3
6.5°	2492.9	2467.0	2440.5	2422.8	2415.0	2418.2
7°	2488.8	2461.0	2432.3	2413.7	2405.5	2409.1
7.5°	2484.3	2454.2	2424.1	2404.1	2395.4	2399.5
8°	2479.3	2447.4	2415.5	2394.1	2385.4	2389.5
8.5°	2474.3	2440.1	2406.4	2384.1	2374.9	2379.5
9°	2468.3	2432.8	2397.3	2373.6	2364.0	2369.0
9.5°	2462.9	2425.1	2387.7	2363.1	2353.1	2359.0
10°	2456.5	2416.9	2377.7	2352.2	2342.1	2348.1
10.5°	2450.1	2409.1	2367.7	2340.8	2330.8	2337.6
11°	2443.3	2400.0	2357.2	2329.8	2319.4	2326.2
11.5°	2436.4	2390.9	2346.2	2318.0	2307.5	2314.8
12°	2428.7	2381.8	2335.3	2306.1	2295.2	2303.0
12.5°	2421.0	2372.2	2323.9	2293.8	2282.9	2291.6
13°	2412.8	2362.6	2312.5	2281.5	2270.6	2279.3
13.5°	2404.6	2352.2	2300.7	2268.8	2258.3	2267.0
14°	2395.9	2341.7	2288.4	2256.5	2245.1	2254.7
14.5°	2387.2	2331.2	2276.5	2243.3	2231.9	2241.5
15°	2377.7	2320.3	2263.8	2229.6	2218.7	2228.7
15.5°	2368.1	2308.9	2250.6	2215.9	2204.6	2215.5
16°	2358.1	2297.0	2237.8	2202.3	2191.3	2202.3
16.5°	2348.1	2285.2	2224.1	2188.2	2177.2	2188.6
17°	2337.6	2272.9	2210.5	2174.0	2163.1	2174.5
17.5°	2326.7	2260.1	2196.4	2159.0	2148.5	2160.4
18°	2315.3	2247.4	2182.2	2144.9	2133.9	2146.7
18.5°	2303.9	2234.2	2167.7	2129.4	2118.5	2132.1
19°	2292.5	2221.0	2152.6	2114.8	2103.9	2116.6
19.5°	2280.2	2207.3	2137.6	2098.9	2088.4	2102.0
20°	2267.9	2193.2	2122.1	2083.4	2072.9	2087.5
20.5°	2255.1	2179.0	2106.6	2067.0	2057.4	2072.0
21°	2242.4	2164.5	2090.7	2051.0	2041.0	2055.6

TEST NUMBER: P776755

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRH-HCD81TRLWW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2202.3	2119.4	2041.9	2000.9	1991.8	2008.7
23°	2188.2	2103.9	2025.5	1984.1	1974.9	1992.3
23.5°	2174.0	2087.9	2008.7	1967.2	1958.1	1975.4
24°	2159.0	2071.5	1991.3	1949.9	1940.8	1958.5
24.5°	2144.4	2055.6	1974.0	1931.7	1923.5	1941.7
25°	2129.4	2038.7	1955.8	1913.9	1905.7	1924.4
25.5°	2113.9	2022.8	1938.5	1896.1	1887.9	1907.1
26°	2098.4	2005.5	1920.7	1877.9	1870.2	1889.3
26.5°	2082.5	1988.6	1902.5	1859.2	1851.9	1871.5
27°	2066.5	1970.8	1884.3	1840.5	1833.7	1853.3
27.5°	2050.1	1953.5	1865.6	1821.9	1815.0	1835.1
28°	2033.7	1935.8	1846.9	1803.2	1795.9	1816.9
28.5°	2016.9	1917.5	1828.2	1784.1	1777.2	1797.7
29°	2000.0	1899.8	1809.1	1764.5	1758.5	1779.0
29.5°	1982.7	1881.5	1790.0	1744.9	1739.0	1760.4
30°	1965.4	1863.3	1770.8	1725.7	1719.4	1741.2
30.5°	1948.1	1844.2	1751.3	1705.7	1700.2	1721.6
31°	1930.8	1825.5	1731.7	1686.1	1680.2	1702.0
31.5°	1912.5	1806.4	1711.6	1666.1	1660.6	1682.0
32°	1894.8	1787.2	1691.6	1645.6	1640.1	1662.4
32.5°	1876.1	1768.1	1672.0	1625.5	1620.0	1642.4
33°	1857.9	1749.0	1651.9	1605.0	1599.5	1622.3
33.5°	1839.2	1728.9	1631.9	1584.5	1579.0	1601.8
34°	1820.5	1709.8	1610.9	1564.0	1558.1	1580.9
34.5°	1802.3	1689.7	1590.9	1543.5	1537.6	1560.4
35°	1783.1	1670.2	1569.9	1522.6	1516.2	1539.4
35.5°	1764.0	1650.6	1549.4	1501.1	1495.7	1518.5
36°	1744.9	1630.1	1529.4	1480.6	1473.8	1497.0
36.5°	1725.7	1610.5	1508.4	1459.7	1453.3	1475.6
37°	1706.1	1590.4	1487.9	1438.3	1431.4	1454.2
37.5°	1686.6	1570.4	1467.4	1416.9	1410.0	1432.8
38°	1667.0	1549.9	1446.5	1395.4	1388.2	1410.5
38.5°	1647.4	1529.4	1426.0	1374.5	1366.7	1388.6
39°	1628.2	1509.3	1404.6	1353.1	1344.9	1367.2
39.5°	1608.2	1489.3	1384.1	1331.7	1323.0	1345.3
40°	1588.2	1468.8	1363.1	1310.3	1301.1	1322.1
40.5°	1568.6	1448.3	1342.6	1288.8	1279.3	1300.2
41°	1548.5	1427.3	1321.6	1267.4	1256.5	1277.4
41.5°	1528.9	1407.7	1300.2	1246.0	1234.6	1255.1
42°	1508.9	1387.7	1279.7	1224.1	1212.8	1231.9
42.5°	1488.4	1366.7	1259.2	1202.7	1190.4	1210.0
43°	1468.3	1346.2	1238.7	1180.9	1167.7	1186.8
43.5°	1448.3	1326.2	1217.3	1159.9	1145.8	1163.6



TEST NUMBER: P776755

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRH-HCD81TRLWW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1387.2	1264.7	1155.4	1095.2	1077.9	1094.8
45.5°	1366.7	1245.1	1134.4	1074.3	1056.0	1071.5
46°	1346.7	1225.1	1114.4	1052.8	1033.7	1048.3
46.5°	1325.7	1204.1	1093.4	1031.4	1010.9	1025.1
47°	1304.8	1183.6	1073.3	1010.0	988.6	1002.3
47.5°	1283.8	1163.6	1051.9	988.6	965.8	978.6
48°	1262.4	1143.1	1032.3	967.7	943.5	954.4
48.5°	1241.5	1122.6	1011.4	946.2	921.2	931.7
49°	1220.0	1102.5	991.3	925.3	898.9	908.4
49.5°	1198.2	1082.0	970.8	903.9	877.0	885.2
50°	1177.2	1061.5	950.3	882.9	854.2	861.5
50.5°	1156.3	1040.5	929.8	862.4	831.9	837.8
51°	1135.8	1020.0	909.8	841.5	810.0	814.6
51.5°	1115.3	1000.5	889.7	820.0	788.2	791.8
52°	1096.1	981.3	870.2	800.0	766.3	768.1
52.5°	1075.6	962.2	850.6	779.5	744.0	745.3
53°	1054.2	943.1	831.9	759.5	722.1	721.6
53.5°	1031.4	923.5	812.3	739.0	700.7	698.4
54°	1006.8	903.0	793.2	718.9	678.8	675.6
54.5°	982.2	882.0	773.6	699.8	657.4	652.8
55°	954.9	860.1	753.5	680.2	636.4	629.6
55.5°	927.6	836.9	732.6	659.7	615.5	607.3
56°	898.9	813.7	712.1	640.1	595.0	584.5
56.5°	870.6	790.0	691.1	619.6	574.0	562.2
57°	840.5	765.4	670.2	599.5	553.5	539.9
57.5°	811.4	740.3	648.7	579.0	533.0	517.5
58°	781.3	715.3	627.8	559.5	513.0	496.6
58.5°	751.3	690.2	605.5	539.4	492.9	474.7
59°	721.6	664.2	584.1	519.4	472.9	453.3
59.5°	692.0	638.7	562.2	499.3	452.8	431.9
60°	662.0	613.2	539.9	479.7	432.8	411.4
60.5°	632.8	587.7	517.5	459.2	413.2	390.9
61°	604.1	562.2	495.2	439.6	393.6	370.8
61.5°	574.9	537.1	472.9	420.0	374.5	350.3
62°	546.2	512.1	451.0	400.5	355.8	331.2
62.5°	518.9	487.5	428.7	380.4	336.7	312.1
63°	491.6	463.3	406.4	360.8	318.5	293.4
63.5°	465.1	439.2	385.0	340.3	300.2	274.3
64°	440.1	415.5	363.6	320.7	282.9	256.9
64.5°	415.9	393.2	342.6	301.1	265.6	239.6
65°	391.8	370.8	321.6	282.5	248.7	222.8
65.5°	368.1	348.1	302.1	262.9	231.4	206.4
66°	344.0	326.2	281.5	243.7	215.5	190.9



TEST NUMBER: P776755

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRH-HCD81TRLWW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	278.8	266.5	226.0	191.8	168.1	150.8
68°	260.1	247.4	208.2	175.4	155.4	139.4
68.5°	241.9	229.2	191.3	159.0	142.6	128.5
69°	224.6	212.3	175.4	146.7	130.3	117.1
69.5°	208.7	196.4	159.5	134.4	117.5	108.4
70°	194.1	180.9	147.2	121.6	104.8	102.1
70.5°	179.5	166.7	135.3	109.3	95.7	97.9
71°	165.8	154.9	123.0	98.9	89.3	93.4
71.5°	153.5	143.1	110.7	90.2	84.7	88.8
72°	141.2	131.7	100.7	82.5	80.6	84.3
72.5°	130.8	119.8	91.6	75.6	76.5	79.7
73°	120.3	108.4	82.9	69.7	72.4	75.2
73.5°	110.3	98.4	75.2	64.2	68.3	71.1
74°	101.1	89.7	68.3	59.7	64.2	67.0
74.5°	92.0	81.5	62.4	56.0	60.6	62.9
75°	83.8	74.3	56.5	52.4	56.9	58.8
75.5°	76.1	67.0	51.5	49.2	53.3	55.1
76°	69.2	60.6	46.5	46.0	49.7	51.5
76.5°	62.0	54.2	42.4	43.3	46.5	48.3
77°	56.0	48.7	38.7	40.1	43.3	45.1
77.5°	50.1	43.7	35.1	37.8	40.1	41.9
78°	45.1	39.2	31.9	35.1	37.4	38.7
78.5°	40.5	34.6	29.2	32.3	34.6	36.0
79°	35.5	31.0	26.4	30.1	31.9	33.3
79.5°	31.0	27.3	24.1	27.3	29.2	30.5
80°	26.4	23.7	21.9	25.1	26.4	27.8
80.5°	22.8	21.0	20.0	22.8	24.1	25.5
81°	19.6	18.2	18.2	21.0	21.9	23.2
81.5°	16.4	16.4	16.4	18.7	19.6	21.0
82°	13.7	14.6	14.6	16.9	17.3	18.7
82.5°	11.4	12.3	12.8	15.0	15.5	16.9
83°	9.1	10.5	11.4	13.2	13.7	14.6
83.5°	7.3	8.7	9.6	11.4	11.8	12.8
84°	5.9	7.3	8.2	9.6	10.0	11.4
84.5°	4.1	5.9	7.3	8.2	8.2	9.6
85°	3.2	5.0	5.9	6.8	6.8	8.2
85.5°	2.3	3.6	4.6	5.9	5.5	6.8
86°	1.4	2.7	3.6	4.6	4.6	5.5
86.5°	0.5	1.8	2.3	3.2	3.6	4.1
87°	0.0	0.9	1.4	2.3	2.7	3.2
87.5°	0.0	0.5	0.5	1.4	1.8	2.3
88°	0.0	0.0	0.0	0.5	0.9	1.8
88.5°	0.0	0.0	0.0	0.0	0.5	0.9



TEST NUMBER: P776755

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRH-HCD81TRLWW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	2040.1	2109.3	2165.4	2240.1	2313.4	2405.9	2471.1	2493.4	2477.4	2409.6	2330.8
22°	2024.6	2094.8	2151.3	2226.9	2302.0	2396.4	2462.9	2485.2	2469.2	2399.5	2318.9



44°	1140.8	1244.6	1320.7	1424.6	1533.5	1691.6	1814.6	1859.7	1835.1	1718.9	1591.3
44.5°	1118.0	1221.9	1299.3	1403.6	1512.5	1671.5	1795.4	1840.5	1816.4	1699.3	1571.3



66.5°	176.3	274.7	357.6	443.3	486.6	547.2	575.4	559.9	509.8	414.6	369.9
67°	161.7	256.5	337.6	420.5	461.0	517.1	543.5	527.6	477.0	390.0	345.8



89°	0.5	2.7	4.6	5.0	2.7	2.3	1.4	0.5	0.0	0.0	0.0
89.5°	0.0	1.8	3.2	3.6	1.8	1.4	0.5	0.0	0.0	0.0	0.0

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21.5°	2229.2	2149.4	2074.7	2034.6	2024.6	2040.1
22°	2215.5	2134.4	2058.8	2017.8	2008.7	2024.6



44°	1428.2	1306.1	1196.4	1138.0	1123.5	1140.8
44.5°	1407.3	1285.2	1175.9	1117.1	1100.7	1118.0



66.5°	320.3	306.2	262.4	226.0	199.1	176.3
67°	298.4	285.6	243.3	208.2	183.1	161.7

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Scaled Data Report



89°	0.0	0.0	0.0	0.0	0.0	0.5
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)